



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/597,917	08/11/2006	Frederick Ian Wood	007540-000002	7872

30565 7590 05/26/2010
Woodard, Emhardt, Moriarty, McNett & Henry LLP
111 Monument Circle, Suite 3700
Indianapolis, IN 46204-5137

EXAMINER

CLEMENTE, ROBERT ARTHUR

ART UNIT	PAPER NUMBER
----------	--------------

1797

NOTIFICATION DATE	DELIVERY MODE
-------------------	---------------

05/26/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

DocketDept@uspatent.com

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed February 15, 2010 have been fully considered but they are not persuasive.

The examiner generally agrees with applicant's argument that Beck (WO 99/20450) only provides the projections (48, 50) in the mold for contact with the ends of the filter element and not the longitudinal sides. Beck does not disclose a mold (42) where **the projections** are provided around the entire peripheral edge of the filter element. This argument, however, is not commensurate with the scope of the claim. The claim requires a mold unit to be located around the entire peripheral edge of the filter element. The tapering projections, however, are disclosed to bite into peripheral regions. The claim does not require that the projections bite into peripheral regions **along the entire peripheral edge** or that the peripheral **regions** extend around the entire peripheral edge. As shown in figure 1 of the reference, the frame (16) is provided around the entire peripheral edge of the filter element (12). Thus, the mold inherently must be located around the entire peripheral edge of the filter element (12) in order to form this frame (16). As disclosed in page 7 lines 1 - 4, the edge (14) is surrounded by and embedded in the continuous frame (16). Thus, the mold (26) inherently must include a cavity configured to locate with clearance around peripheral edge and marginal regions of the longitudinal sides of the filter element (12). Just the ends of the filter media (one of which is shown in figures 3 - 7) can be considered to be the peripheral regions as broadly recited in the claim. The interpretation of the instant

Art Unit: 1797

claims is that (1) the projections need not be located around the entire periphery of the filter element and (2) the peripheral regions can be considered to be the end regions of the reference filter media.

Claim Rejections - 35 USC § 102

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by International Publication No. WO 99/20450 to Beck.

Beck teaches a method of forming a filter unit comprised of a filter element and an encircling peripheral encasement frame to which the filter element is sealed, as shown generally in figures 3 - 7. The filter unit (10) is shown in figures 1 and 2. The filter unit (10) includes a pleated filter element (12) and an encircling peripheral encasement frame (16). Based on the direction of flow shown by the arrow (24) in figure 2, the bottom surface of the filter element (12) can be considered a front face and the top surface can be considered a rear face. Figure 3 best shows the bounding peripheral edge (14) of the filter element (12). Figures 3 and 4 illustrate the step of locating the filter element (12) in a mold unit (26), which is made up of an upper and lower mold half (28, 30 respectively). As shown in figure 4, the mold unit seals against peripheral regions of the front and rear faces of the filter element. Also as shown in figure 4, the mold unit (26) together with the peripheral edge (14) and marginal regions of the front and rear faces of the filter element (12) defines a mold cavity (42). Both the top and

Art Unit: 1797

bottom mold halves (28, 30) include tapering projections (48, 50 respectively) that bite into the peripheral regions of the front and rear faces so as to cause a depression therein. Figure 5 shows the step of filling the mold cavity (42) with a solidifiable liquid resin composition. As discussed in page 10 lines 17 - 25, after the liquid synthetic material, or resin, has filled the mold cavity (42), as shown in figure 6, the liquid resin is converted to a solid and the mold halves are moved apart, thus producing a solid frame (16) around the filter element (12), as shown in figure 7, and the filter unit (10), as shown in figure 1. As shown in figure 1, the frame (16) is provided around the entire peripheral edge of the filter element (12). Thus, the mold inherently must be located around the entire peripheral edge of the filter element (12) in order to form this frame (16). As disclosed in page 7 lines 1 - 4, the edge (14) is surrounded by and embedded in the continuous frame (16). Thus, the mold (26) inherently must include a cavity configured to locate with clearance around peripheral edge and marginal regions of the longitudinal sides of the filter element (12). Just the ends of the filter media (one of which is shown in figures 3 - 7) can be considered to be the peripheral regions as broadly recited in the claim.

In regard to claim 9, as disclosed in page 7 lines 5 - 15, the filter element (12) of Beck comprises three layers. The first layer is a filtering non-woven layer (18) that can be considered a pad as broadly recited in the claim. The second layer is an activated carbon layer (20).

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Beck in view of US Patent No. 4,187,182 to Rosenberg.

Beck is discussed above in section 3. Beck discloses using a solidifiable liquid polymer resin, or thermoplastic, but does not disclose using a curable resin as an alternate to the liquefied polymer to form the frame. Rosenberg discloses a box filter with two housing parts (2, 3) that form the frame of the filter. As disclosed in column 5 lines 36 - 44, thermoplastics and curable resins can both be equivalently used to form the housing parts.

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to substitute a curable resin for the thermoplastic material of Beck as suggested by Rosenberg since both a curable resin and a thermoplastic material are well known means in the art to form molded structural parts for filters.

6. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beck in view of US Patent No. 6,579,250 to Doherty.

Beck is discussed above in section 3. Beck mainly deals with the method of forming a filter frame. Beck does not disclose the filter element to be a HEPA filter element or to comprise ULPA or ASHRAE media. One of ordinary skill in the art, however, would reasonably expect that method of Beck could be used with any suitable

Art Unit: 1797

pleated filter media depending upon the desired type of filtering needed. Doherty teaches a pleated non-woven filtration media that predictably could be used in the process of Beck. As discussed in column 1 lines 19 - 25, pleated HEPA, ULPA, and ASHRAE filters are well known filters in the art for removing particles smaller than 10 microns.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Beck to include a HEPA, ULPA, or ASHREA filter element as suggested by Doherty, given the application of the filter required removing 10 micron or smaller particles.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 1797

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT A. CLEMENTE whose telephone number is (571)272-1476. The examiner can normally be reached on M-F, 7:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Marcheschi can be reached on (571) 272-1374. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RAC

/Michael A Marcheschi/

Supervisory Patent Examiner, Art Unit 1797